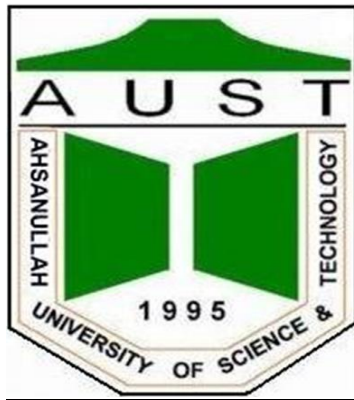# AHSANULLAH UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Computer Science & Engineering

Course No: CSE 4238

Course Name: Soft Computing Lab

Section: C   Lab Group: C1

Semester: Fall 2020, Assignment No: 3

Submitted to:

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Department of CSE, AUST.

Submitted By:

Name: Rejone E Rasul Hridoy

ID: 17.01.04.116

Reports Generation

**1. Make necessary tables and graphs/charts to show your result and discuss them.**

In this assignment we have solved a text classification problem. According to my id (116) I have got Dataset 3 which have 2 class (0 and 1). For this problem I used Bidirectional Recurrent Neural Network and hyperparameters are:

Hyperparameters	Value
Batch Size	100
Embedding Dimension	50
Number of recurrent layers	4
Number of nodes in hidden layer	50
Epochs	30
Output layers	2

Here in this model, I have used glove word embedding of 50 dimensions. Finally, I trained the model and tested the model and the results are given below

Epochs	Train Accuracy	Validation Accuracy	Train Loss	Validation Loss	Precision	Recall	F1 Score
Epoch 5	82.664	95.46	0.431	0.268	92.147	95.98	93s.072
Epoch 10	95.038	95.249	0.168	0.147	96.425	99.495	93.361
Epoch 15	98.146	99.305	0.08	0.04	98.551	99.227	98.947
Epoch 20	99.12	98.163	0.049	0.103	95.953	97.672	97.237
Epoch 25	99.145	99.353	0.051	0.043	98.58	99.228	99.026
Epoch 30	99.241	99.401	0.044	0.037	98.778	99.281	99.143

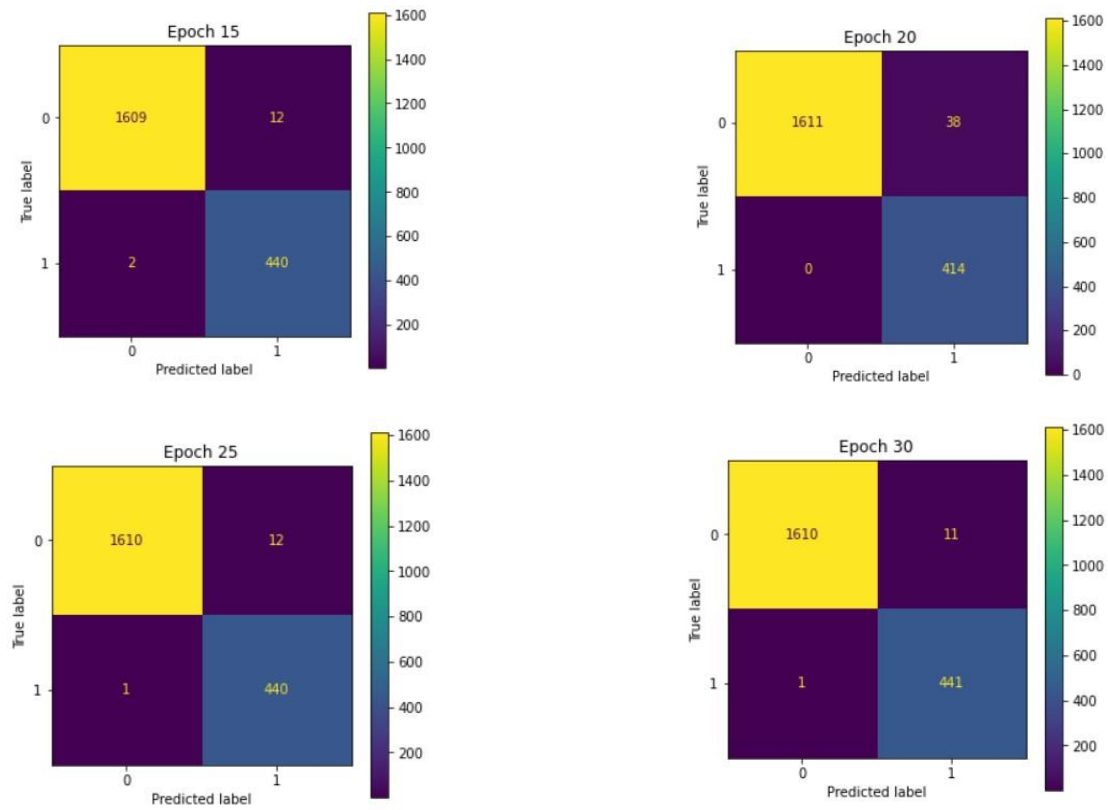Confusion Matrix of this model
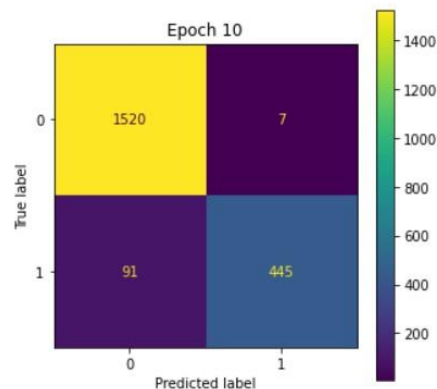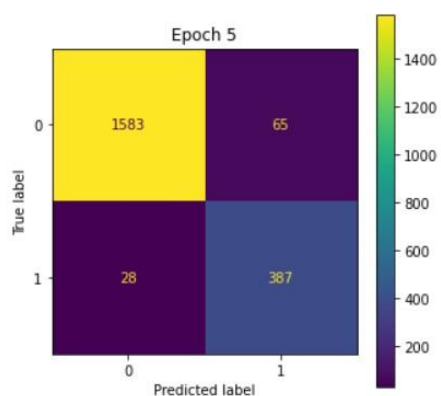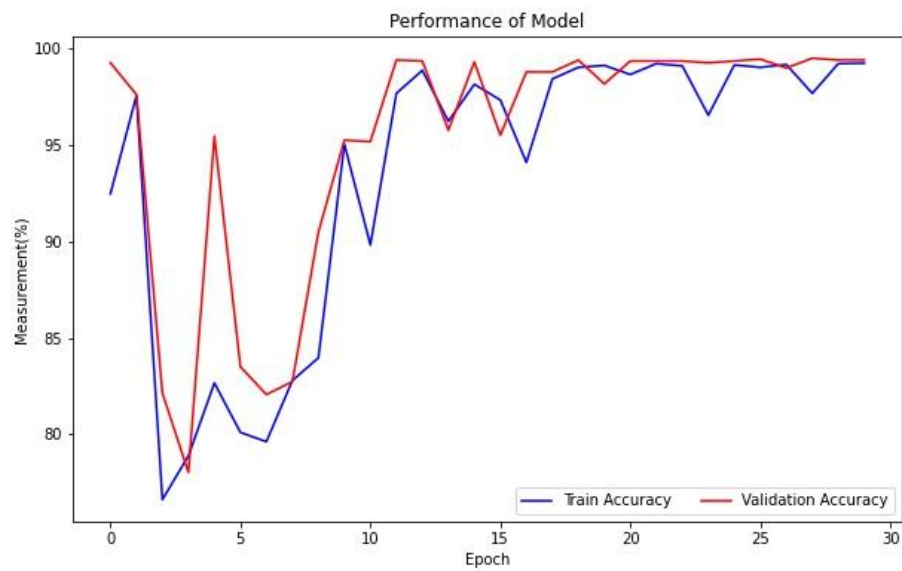
Figure: confusion matrix of different epochs

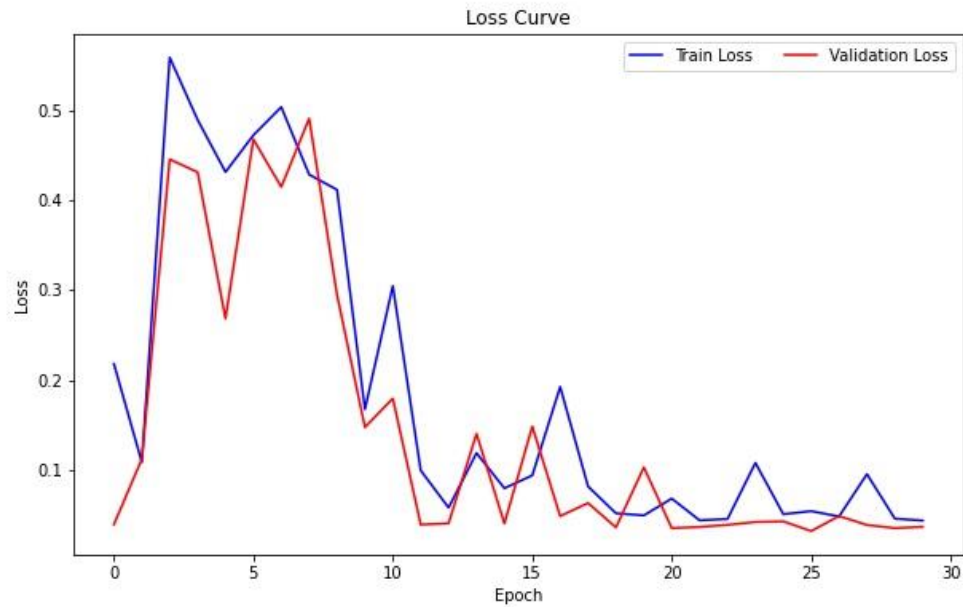Figure 1.1: performance measurement graph between train accuracy and validation accuracy

Figure 1.2: Loss curve between train loss and validation loss

After training the model we have predicted the model with real life text and our model performs very well.

2. Upload your code in Github and share the link in your report.

Github Link: https://github.com/rejonehridoy/Text_Classification_using_BRNN